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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No. 7,233,623  
PAU ET AL.

) Attorney Docket No.  
) 98AG07053137

Issued: JUNE 19, 2007

For: METHOD AND SCALABLE ARCHITECTURE)  
FOR PARALLEL CALCULATION OF THE )  
DCT OF BLOCKS OF PIXELS OF )  
DIFFERENT SIZES AND COMPRESSION )  
THROUGH FRACTAL CODING )

REQUEST FOR CERTIFICATE OF CORRECTION OF  
APPLICANT'S MISTAKE UNDER RULE 1.323

Commissioner For Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Certificate  
JAN 17 2008  
of Correction

Sir:

In accordance with the provisions of Rule 1.323 of the Rules of Practice, the Patent Office is respectfully requested to correct matters in the above-identified patent in accordance with the Certificate of Correction Form PTO-1050 attached hereto.

The Patent Office is requested to issue a Certificate of Correction on the above-referenced Patent Document, and to place such a Certificate of Correction in the file, so that such will appear on any copies of the patent which are ordered in the future.

The corrections being made are of consequence to provide the proper recitation in the specification. Several of the mistakes occurred in good faith and are not the fault of the Patent and Trademark Office. However, eight printing errors of

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In re Patent of  
**PAU ET AL.**  
Patent No. 7,233,623  
Issued: **JUNE 19, 2007**



the Patent Office are also being corrected. No new matter is added by these corrections.

Authorization is given to charge the requisite fee as set forth in 37 CFR § 1.20(a) in the amount of \$100.00 to the credit card listed on the attached credit card payment form PTO-2038. The Commissioner is authorized to charge or credit any discrepancies in fee amounts to Deposit Account 01-0484.

Respectfully submitted,

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 11<sup>th</sup> day of January, 2008.

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# UNITED STATES PATENT AND TRADEMARK OFFICE

## CERTIFICATE OF CORRECTION

PATENT NO. : 7,233,623  
 DATED : JUNE 19, 2007  
 INVENTOR(S) : PAU ET AL.

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below

Column 7, Line 1 Delete:

$$\begin{bmatrix} y[0] & y[1] & \cdots & y[7] \\ \vdots & \vdots & \vdots & \vdots \\ y[54] & y[55] & \cdots & y[63] \end{bmatrix} = \begin{bmatrix} l[0] & l[1] & l[4] & l[5] & m[0] & m[1] & m[4] & m[5] \\ l[2] & l[3] & l[6] & l[7] & m[2] & m[3] & m[6] & m[7] \\ n[0] & n[1] & n[4] & n[5] & o[0] & o[1] & o[4] & o[5] \\ n[2] & n[3] & n[6] & n[7] & o[2] & o[3] & o[6] & o[7] \\ p[0] & p[1] & p[4] & p[5] & q[0] & q[1] & q[4] & q[5] \\ p[2] & p[2] & p[6] & p[7] & q[2] & q[3] & q[6] & q[7] \\ r[0] & r[1] & r[4] & r[5] & s[0] & s[1] & s[4] & s[5] \\ r[2] & r[2] & r[6] & r[7] & s[2] & s[3] & s[6] & s[7] \end{bmatrix},$$

Insert --

$$\begin{bmatrix} y[0] & y[1] & \cdots & y[7] \\ \vdots & \vdots & \vdots & \vdots \\ y[54] & y[55] & \cdots & y[63] \end{bmatrix} = \begin{bmatrix} l[0] & l[1] & l[4] & l[5] & m[0] & m[1] & m[4] & m[5] \\ l[2] & l[3] & l[6] & l[7] & m[2] & m[3] & m[6] & m[7] \\ n[0] & n[1] & n[4] & n[5] & o[0] & o[1] & o[4] & o[5] \\ n[2] & n[3] & n[6] & n[7] & o[2] & o[3] & o[6] & o[7] \\ p[0] & p[1] & p[4] & p[5] & q[0] & q[1] & q[4] & q[5] \\ p[2] & p[3] & p[6] & p[7] & q[2] & q[3] & q[6] & q[7] \\ r[0] & r[1] & r[4] & r[5] & s[0] & s[1] & s[4] & s[5] \\ r[2] & r[3] & r[6] & r[7] & s[2] & s[3] & s[6] & s[7] \end{bmatrix} --$$

Column 7, Line 42

Delete:

$$\{B_{3,i}\}_{i=0}^3 = \{x_{2,0}, x_{0,1}, x_{3,2}, x_{1,3}\}$$

Insert:

$$-- \{B_{3,i}\}_{i=0}^3 = \{x_{2,0}, x_{0,1}, x_{3,2}, x_{1,3}\},$$

$$\{B_{1,i}\}_{i=0}^3 = \{x_{3,0}, x_{2,1}, x_{1,2}, x_{0,3}\} --$$

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Column 9, Line  
 22

Delete:

$$p = \begin{bmatrix} A_1[0]^{1,0} \\ A_3[0]^{1,0} \\ B_3[0]^{1,0} \\ B_1[0]^{1,0} \\ A_1[0]^{1,1} \\ A_3[0]^{1,1} \\ B_3[0]^{1,1} \\ B_1[0]^{1,1} \end{bmatrix}, p = \begin{bmatrix} A_1[1]^{1,0} \\ A_3[1]^{1,0} \\ B_3[1]^{1,0} \\ B_1[1]^{1,0} \\ A_1[1]^{1,1} \\ A_3[1]^{1,1} \\ B_3[1]^{1,1} \\ B_1[1]^{1,1} \end{bmatrix}, q = \begin{bmatrix} A_1[2]^{1,0} \\ A_3[2]^{1,0} \\ B_3[2]^{1,0} \\ B_1[2]^{1,0} \\ A_1[2]^{1,1} \\ A_3[2]^{1,1} \\ B_3[2]^{1,1} \\ B_1[2]^{1,1} \end{bmatrix}, s = \begin{bmatrix} A_1[3]^{1,0} \\ A_3[3]^{1,0} \\ B_3[3]^{1,0} \\ B_1[3]^{1,0} \\ A_1[3]^{1,1} \\ A_3[3]^{1,1} \\ B_3[3]^{1,1} \\ B_1[3]^{1,1} \end{bmatrix},$$

Insert

$$-- p = \begin{bmatrix} A_1[0]^{1,0} \\ A_3[0]^{1,0} \\ B_3[0]^{1,0} \\ B_1[0]^{1,0} \\ A_1[0]^{1,1} \\ A_3[0]^{1,1} \\ B_3[0]^{1,1} \\ B_1[0]^{1,1} \end{bmatrix}, q = \begin{bmatrix} A_1[1]^{1,0} \\ A_3[1]^{1,0} \\ B_3[1]^{1,0} \\ B_1[1]^{1,0} \\ A_1[1]^{1,1} \\ A_3[1]^{1,1} \\ B_3[1]^{1,1} \\ B_1[1]^{1,1} \end{bmatrix}, r = \begin{bmatrix} A_1[2]^{1,0} \\ A_3[2]^{1,0} \\ B_3[2]^{1,0} \\ B_1[2]^{1,0} \\ A_1[2]^{1,1} \\ A_3[2]^{1,1} \\ B_3[2]^{1,1} \\ B_1[2]^{1,1} \end{bmatrix}, s = \begin{bmatrix} A_1[3]^{1,0} \\ A_3[3]^{1,0} \\ B_3[3]^{1,0} \\ B_1[3]^{1,0} \\ A_1[3]^{1,1} \\ A_3[3]^{1,1} \\ B_3[3]^{1,1} \\ B_1[3]^{1,1} \end{bmatrix} --$$

Column 10, Line  
 22

Delete:  $t = \begin{cases} 1 & \text{per stage} = 0 \\ 2 & \text{per stage} = 1 \end{cases},$

Insert:  $-- t = \begin{cases} 1 & \text{per stage} = 0 \\ 2 & \text{per stage} = 1 \end{cases} --$

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Column 12, Line 28      Delete:

$$y_i = [y_{i,0} \quad y_{i,1} \quad \cdots \quad y_{i,7}]$$

$$\{f_{0,r}\}_{r=0}^7 = DCT(\{A_{1,i}\}_{i=0}^7), \{f_{4,r}\}_{r=0}^7 = DCT(\{B_{7,i}\}_{i=0}^7),$$

$$\{f_{1,r}\}_{r=0}^7 = DCT(\{A_{3,i}\}_{i=0}^7), \{f_{5,r}\}_{r=0}^7 = DCT(\{B_{5,i}\}_{i=0}^7),$$

$$\{f_{2,r}\}_{r=0}^7 = DCT(\{A_{5,i}\}_{i=0}^7), \{f_{6,r}\}_{r=0}^7 = DCT(\{B_{3,i}\}_{i=0}^7),$$

$$\{f_{3,r}\}_{r=0}^7 = DCT(\{A_{7,i}\}_{i=0}^7), \{f_{7,r}\}_{r=0}^7 = DCT(\{B_{1,i}\}_{i=0}^7),$$

$$\{A_{1,i}\}_{i=0}^7 = \{x_{0,0} \quad x_{1,1} \quad x_{2,2} \quad x_{3,3} \quad x_{4,4} \quad x_{5,5} \quad x_{6,6} \quad x_{7,7},$$

$$\{A_{3,i}\}_{i=0}^7 = \{x_{1,0} \quad x_{4,1} \quad x_{7,2} \quad x_{5,3} \quad x_{2,4} \quad x_{0,5} \quad x_{3,6} \quad x_{6,7},$$

$$\{A_{5,i}\}_{i=0}^7 = \{x_{2,0} \quad x_{7,1} \quad x_{3,2} \quad x_{1,3} \quad x_{6,4} \quad x_{4,5} \quad x_{0,6} \quad x_{5,7},$$

$$\{A_{7,i}\}_{i=0}^7 = \{x_{3,0} \quad x_{5,1} \quad x_{1,2} \quad x_{7,3} \quad x_{0,4} \quad x_{6,5} \quad x_{2,6} \quad x_{4,7},$$

$$\{B_{7,i}\}_{i=0}^7 = \{x_{4,0} \quad x_{2,1} \quad x_{6,2} \quad x_{0,3} \quad x_{7,4} \quad x_{1,5} \quad x_{5,6} \quad x_{3,7},$$

$$\{B_{5,i}\}_{i=0}^7 = \{x_{5,0} \quad x_{0,1} \quad x_{4,2} \quad x_{6,3} \quad x_{1,4} \quad x_{3,5} \quad x_{7,6} \quad x_{2,7}\},$$

$$\{B_{3,i}\}_{i=0}^7 = \{x_{6,0} \quad x_{3,1} \quad x_{0,2} \quad x_{2,3} \quad x_{5,4} \quad x_{7,5} \quad x_{4,6} \quad x_{1,7}\},$$

$$\{B_{1,i}\}_{i=0}^7 = \{x_{7,0} \quad x_{6,1} \quad x_{5,2} \quad x_{4,3} \quad x_{3,4} \quad x_{2,5} \quad x_{1,6} \quad x_{0,7}\}''$$

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Column 12, Line 28 (Cont.)      Insert:

$$\begin{aligned}
 & \text{-- } y_i = [y_{i,0} \quad y_{i,1} \quad \cdots \quad y_{i,7}] \\
 & \{f_{0,r}\}_{r=0}^7 = DCT(\{A_{1,i}\}_{i=0}^7), \quad \{f_{4,r}\}_{r=0}^7 = DCT(\{B_{7,i}\}_{i=0}^7), \\
 & \{f_{1,r}\}_{r=0}^7 = DCT(\{A_{3,i}\}_{i=0}^7), \quad \{f_{5,r}\}_{r=0}^7 = DCT(\{B_{5,i}\}_{i=0}^7), \\
 & \{f_{2,r}\}_{r=0}^7 = DCT(\{A_{5,i}\}_{i=0}^7), \quad \{f_{6,r}\}_{r=0}^7 = DCT(\{B_{3,i}\}_{i=0}^7), \\
 & \{f_{3,r}\}_{r=0}^7 = DCT(\{A_{7,i}\}_{i=0}^7), \quad \{f_{7,r}\}_{r=0}^7 = DCT(\{B_{1,i}\}_{i=0}^7), \\
 & \{A_{1,i}\}_{i=0}^7 = \{x_{0,0} \quad x_{1,1} \quad x_{2,2} \quad x_{3,3} \quad x_{4,4} \quad x_{5,5} \quad x_{6,6} \quad x_{7,7}\}, \\
 & \{A_{3,i}\}_{i=0}^7 = \{x_{1,0} \quad x_{4,1} \quad x_{7,2} \quad x_{5,3} \quad x_{2,4} \quad x_{0,5} \quad x_{3,6} \quad x_{6,7}\}, \\
 & \{A_{5,i}\}_{i=0}^7 = \{x_{2,0} \quad x_{7,1} \quad x_{3,2} \quad x_{1,3} \quad x_{6,4} \quad x_{4,5} \quad x_{0,6} \quad x_{5,7}\}, \\
 & \{A_{7,i}\}_{i=0}^7 = \{x_{3,0} \quad x_{5,1} \quad x_{1,2} \quad x_{7,3} \quad x_{0,4} \quad x_{6,5} \quad x_{2,6} \quad x_{4,7}\}, \\
 & \{B_{7,i}\}_{i=0}^7 = \{x_{4,0} \quad x_{2,1} \quad x_{6,2} \quad x_{0,3} \quad x_{7,4} \quad x_{1,5} \quad x_{5,6} \quad x_{3,7}\}, \\
 & \{B_{5,i}\}_{i=0}^7 = \{x_{5,0} \quad x_{0,1} \quad x_{4,2} \quad x_{6,3} \quad x_{1,4} \quad x_{3,5} \quad x_{7,6} \quad x_{2,7}\}, \\
 & \{B_{3,i}\}_{i=0}^7 = \{x_{6,0} \quad x_{3,1} \quad x_{0,2} \quad x_{2,3} \quad x_{5,4} \quad x_{7,5} \quad x_{4,6} \quad x_{1,7}\}, \\
 & \{B_{1,i}\}_{i=0}^7 = \{x_{7,0} \quad x_{6,1} \quad x_{5,2} \quad x_{4,3} \quad x_{3,4} \quad x_{2,5} \quad x_{1,6} \quad x_{0,7}\} \text{--}
 \end{aligned}$$

Column 15, Line 56	Delete: "two stage"
	Insert: --two stages--

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**CERTIFICATE OF CORRECTION**

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Column 20, Line 67	Delete: "{l[0],m[0],n[0],o[0]} is }a[0],b[0],c[0],d[0]}"
	Insert: --{l[0],m[0],n[0],o[0]} is {a[0],b[0],c[0],d[0]}--

Column 21, Line 3	Delete: "{a[0],b[0],c[0],d[0]}"
	Insert: --{a[0],b[0],c[0],d[0]}--

Column 22, Line 30	Delete: "1' vector"
	Insert: --1' vector--

Column 24, Line 5	Delete: " $= \begin{cases} 2C_8^3 \times I_{8 \times 8} & \text{per stage} = 0 \\ -(H_6)_8 & \text{per stage} = 1 \end{cases}$ "
	Insert: "-- $B = \begin{cases} 2C_8^3 \times I_{8 \times 8} & \text{per stage} = 0 \\ -(H_6)_8 & \text{per stage} = 1 \end{cases}$ ,"--

Column 24, Line 10	Delete: " $= \begin{cases} 2C_4^1 \times I_{8 \times 8} & \text{per stage} = 0 \\ (H_4)_8 & \text{per stage} = 1 \end{cases}$ "
	Insert: "-- $C = \begin{cases} 2C_4^1 \times I_{8 \times 8} & \text{per stage} = 0 \\ (H_4)_8 & \text{per stage} = 1 \end{cases}$ ,"--

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